

Appl. No. : 10/529,591
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AMENDMENTS TO THE CLAIMS

1. (Currently amended) A device for handling and recovering kinetic energy in a fluid, characterised in that it comprises comprising:
 - a bladed reversible impeller (11); adapted to operate both as an autonomous centrifugal blower pushing the fluid under pressure to a fluid outlet and as a device to recover energy;
 - a reversible engine/generator integral with the bladed impeller; and
 - a fluid conveyor containing the impeller, which co-operates with the impeller to handle and recover the kinetic energy of incoming fluid, the fluid conveyor comprising a convergent spiral of a fluid inlet adapted to receive an incoming fluid and a divergent spiral of the fluid outlet; said bladed reversible wherein the impeller (11) having a common blades define continuous channels communicating at a first end with the fluid outlet and at a second opposite end with the fluid inlet, with said fluid conveyor (7), and the impeller being either moved supplied by a fluid supplied through said fluid inlet or conveyor (7), in such a way as it can slow down and convey mechanical power to the engine/generator (12), operating as an electric generator, or being accelerated by the reversible engine/generator (12), operating as an engine, in such a way as to be able to operate as a centrifugal blower delivering fluid under pressure through said fluid outlet. by means of the fluid conveyor (7).
 - ~~a reversible engine/generator (12) integral with the bladed impeller;~~
 - ~~a fluid conveyor (7) which co-operates with the impeller to handle and recover the kinetic energy of the incoming fluid.~~
2. Canceled.
3. (Currently amended) Device as in The device of claim 1 2, characterised in that wherein said fluid conveyor (7) includes also a duct (17) for recirculation or partial exhaust of excess fluid.
4. (Currently amended) Device as in The device of claim 1, characterised in that wherein said engine/generator (12) is integral with the bladed flow impeller (11) by means of a shaft.
5. (Currently amended) Device as in The device of claim 1, characterised in that wherein said engine/generator (12) is a high efficiency permanent magnet brushless electric three-phase synchronous machine which is supplied, as an engine, with alternate three-phase variable high

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frequency current, and outputs as a generator, an alternate three-phase current.

6. (Currently amended) ~~Device as in any of the previous claims, characterised in that~~ The device of claim 1, wherein the device is it is a single assembly body also comprising and further comprises:

- an engine/generator (11) casing (8) ~~equipped with~~ having a first cooler;
- a rear cover (9) integral with the said casing (8); and
- a front cover (10) ~~with relevant~~ having a second cooler, integral with the ~~said~~ fluid conveyor (7),

such said single body containing ~~inside~~ the ~~said~~ engine/generator (12), and the bladed impeller (11) ~~and shaft (13).~~

7. (Currently amended) ~~Device as in~~ The device of claim 6, characterised in that wherein said engine/generator is integral with the bladed impeller by means of a shaft, and wherein said rotation shaft (13) is inserted in the said front and rear covers (9,10) by means of antifriction bearings (14).

8. (Currently amended) ~~Device as in any of the previous claims~~ The device of claim 1, in which said device is characterised in that it is made of aluminum alloy or stainless steel or titanium or ceramic material or composite materials such as fiber reinforced techno polymer.

9. (Currently amended) An Overcharged engine including a turbo supercharger, comprising characterised in that it comprises a device as in any of the previous claims, assembled in series between the said turbo supercharger and the ~~engine~~ pressurized fluid inlet.

10. (Currently amended) ~~Engine as in~~ The engine of claim 9, characterised in that it is for use on a road trailer internal combustion engine.

11. (Currently amended) ~~Engine as in~~ The engine of claim 9, characterised in that it is for use on an airplane aviation piston propulser.

12. (Currently amended) ~~Engine as in~~ The engine of claim 9, characterised in that it is for use on a ship an internal combustion engine for marine propulsion.

13. (Currently amended) ~~Engine as in~~ The engine of claim 9, characterised in that wherein it is a two-stroke-cycle internal combustion engine.

14. Cancelled